

ABSTRACT

The present invention provides various processes for producing methanol and ethanol, preferably in a mixed alcohol stream. In one embodiment, the invention includes directing syngas to a synthesis zone wherein the syngas contacts a methanol synthesis catalyst and an ethanol synthesis catalyst (either a homologation catalyst or a fuel alcohol synthesis catalyst) under conditions effective to form methanol and ethanol. The methanol and ethanol, in a desired ratio, are directed to an oxygenate to olefin reaction system for conversion thereof to ethylene and propylene in a desired ratio. The invention also relates to processes for varying the weight ratio of ethylene to propylene formed in an oxygenate to olefin reaction system.